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E04B 1/68

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D402 D421 D501

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WO 86/05224 A US 4769963 A

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DLEKMNV DLEKMSV DLEQWCV DLEQWDV
DLEQWNV DLEQWSV
INT CL[5] E04B

(54) Building panel joint

(57) A joint comprises, a ramp 20, pocket 18, which may contain a sealant (34, figures 9 and 10 not shown), an interlocking wedge element 19 and a centering stabilizer 21. In use two insulated panels 11 are locked together by a snap fit causing the wedge 19 to yieldably move over the ramp 20 into the pocket 18 causing the sealant (34), positioned in pocket 18, to extrude forming a gasket between the pocket walls 25 and the wedge 19. The wedge 19 may be formed on one edge of a panel, figure 8, or alternatively may be formed on both sides of an 'I' beam 42 interposed between two panels, figure 15.

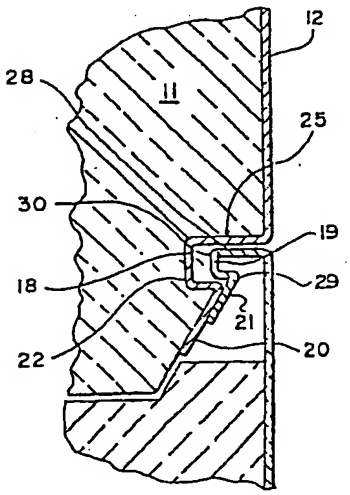

FIG.8

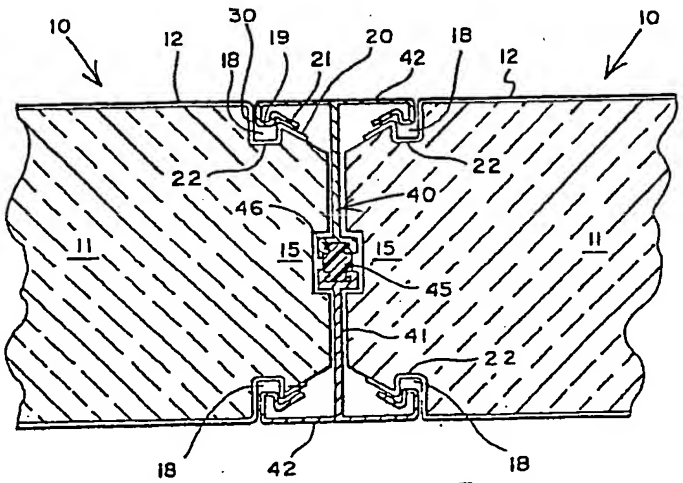

FIG.15

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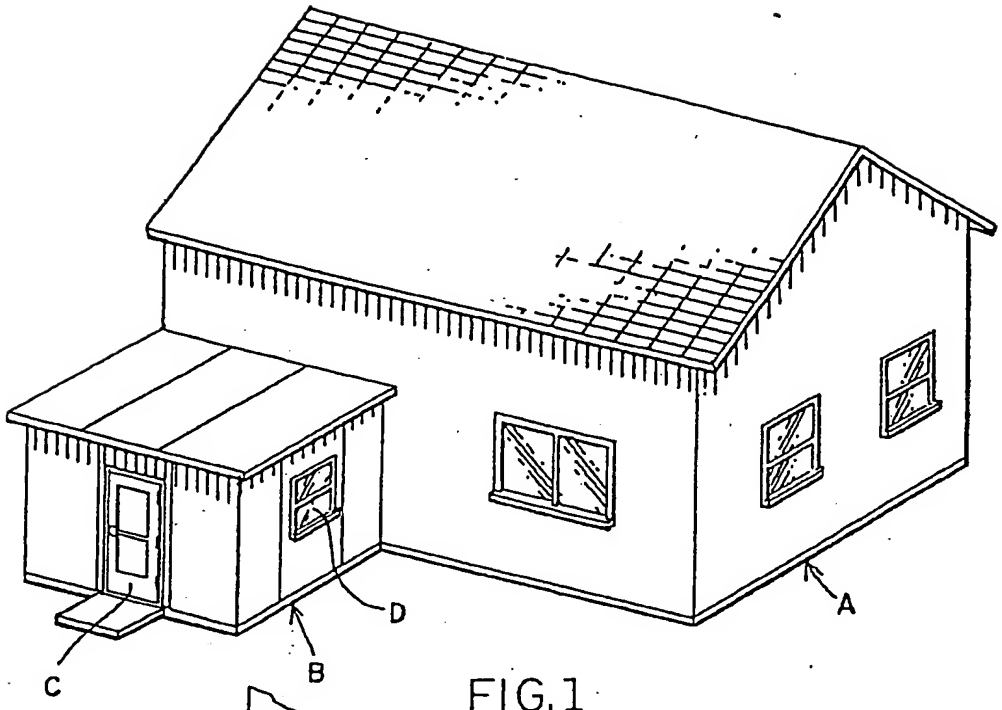

FIG. 1

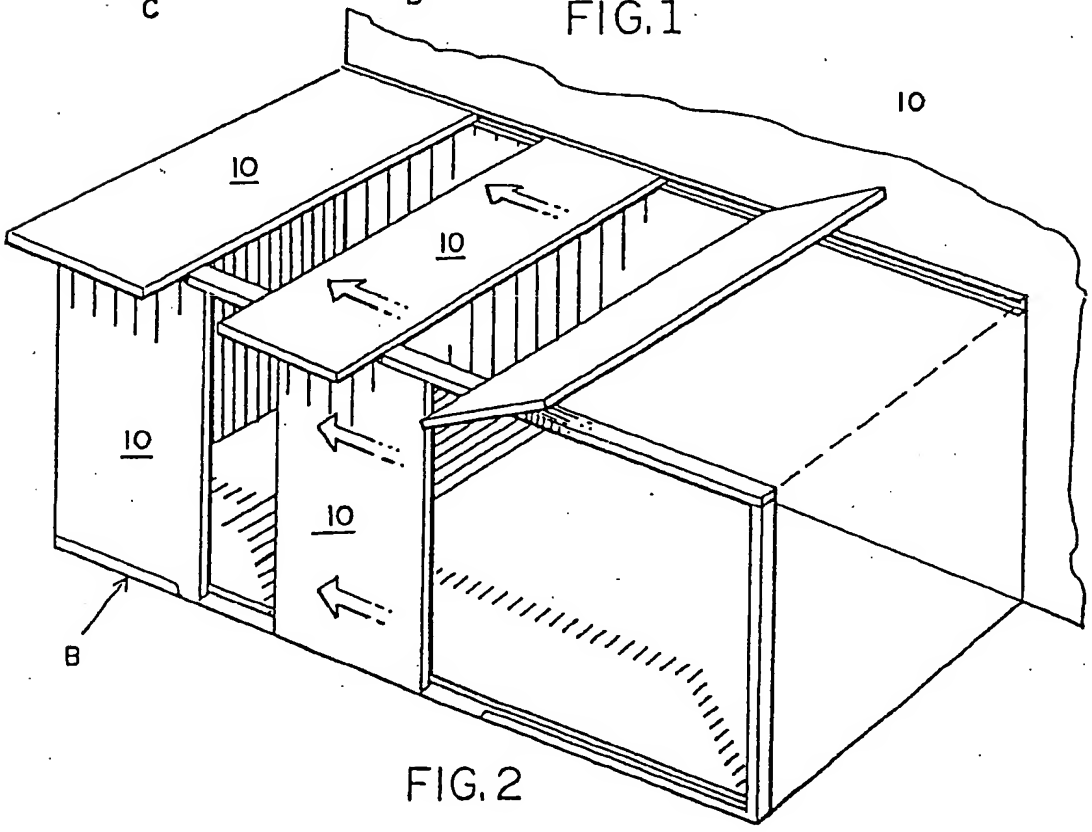

FIG. 2

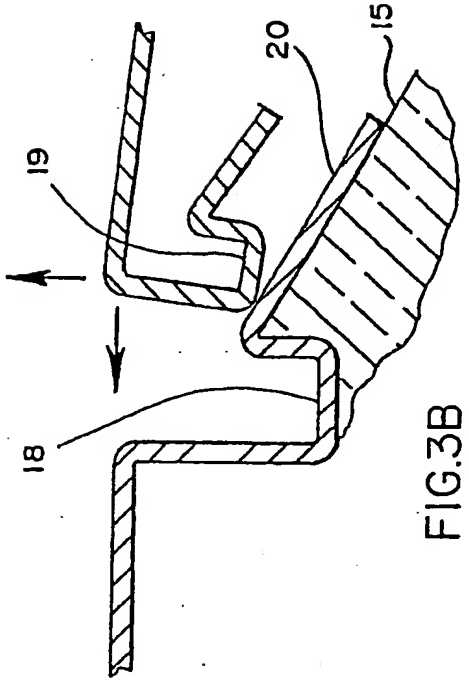

FIG.3B

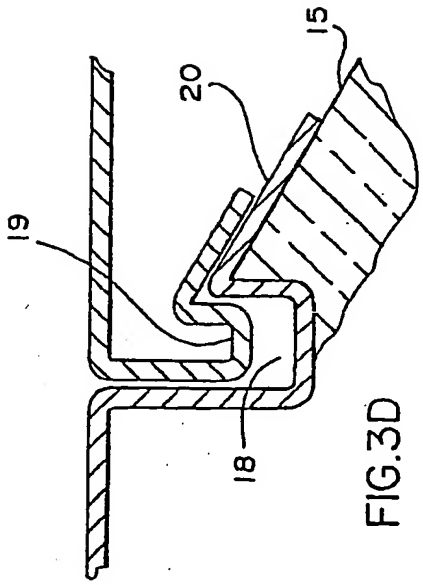

FIG.3D

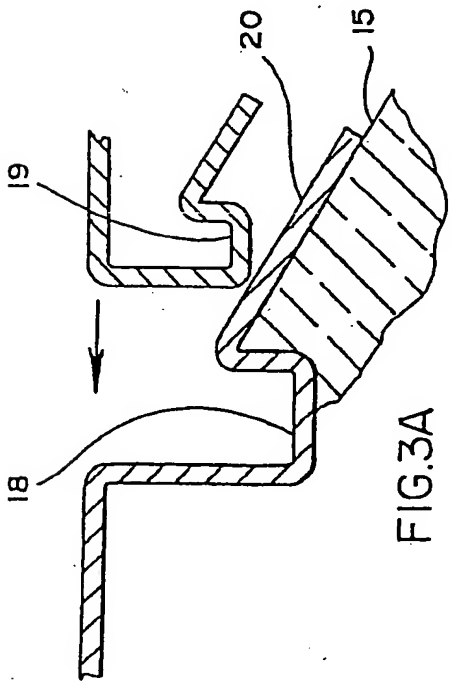

FIG.3A

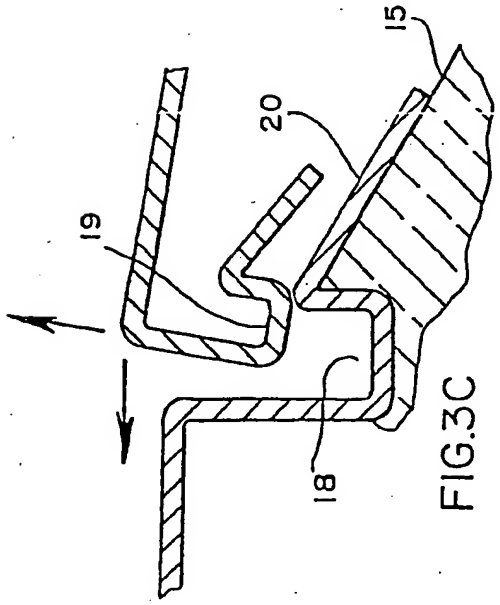

FIG.3C

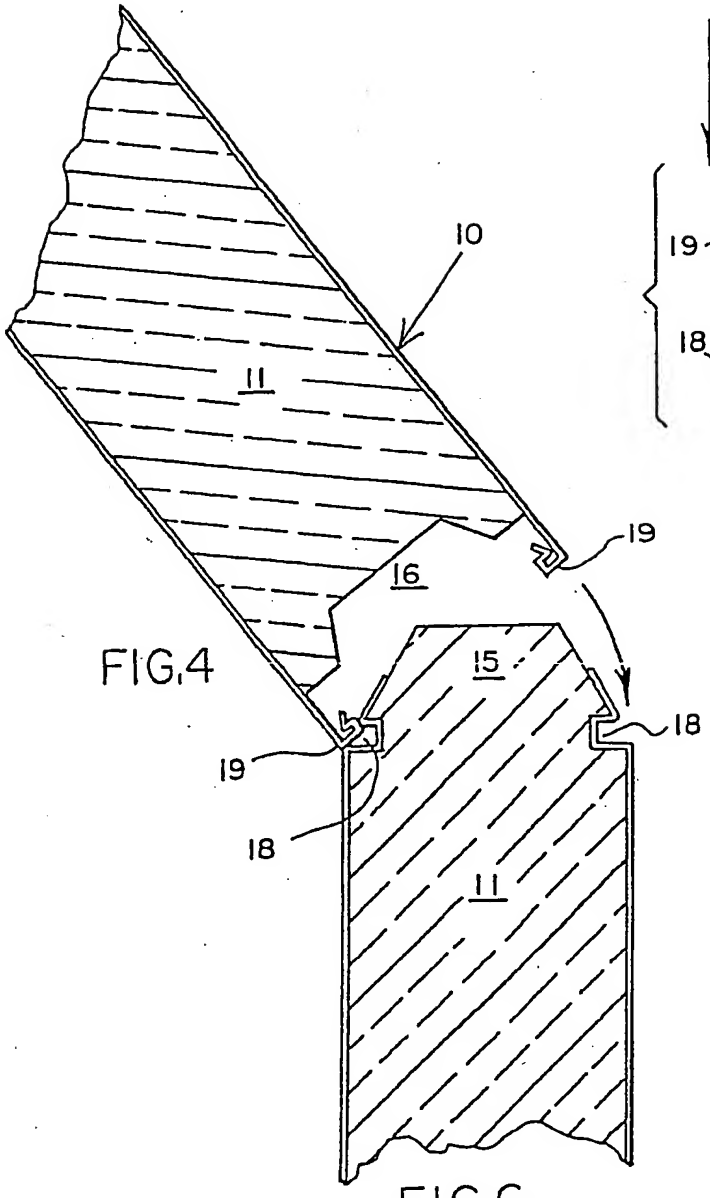

FIG.4

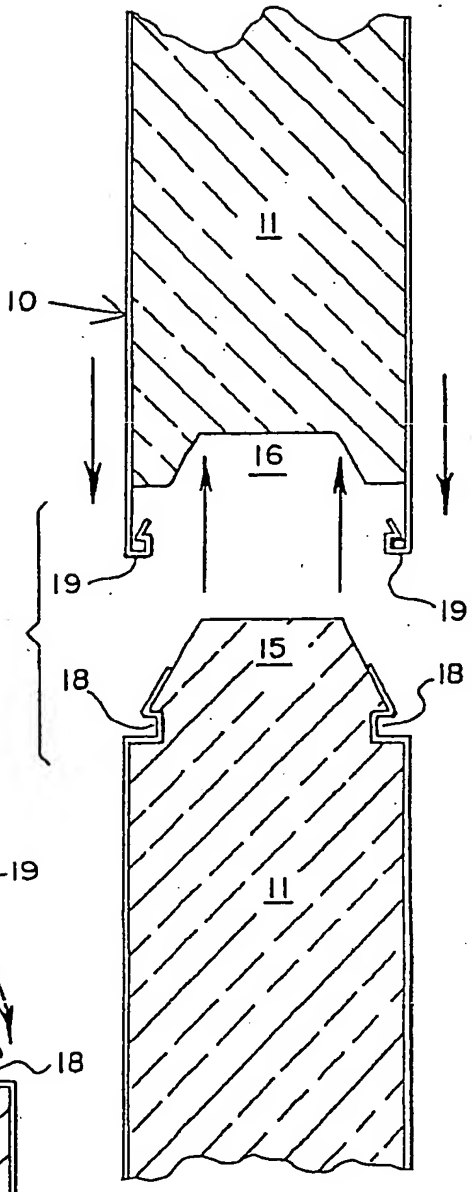

FIG.5

FIG.6

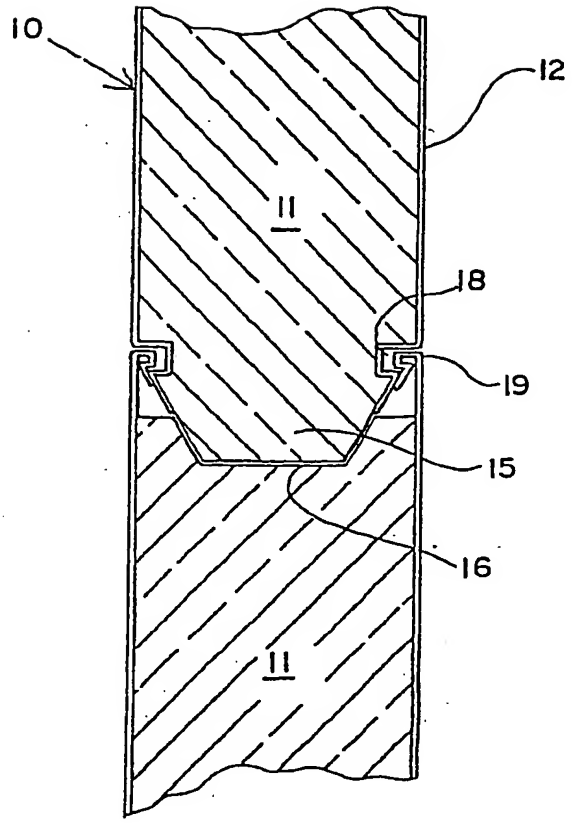

FIG. 7

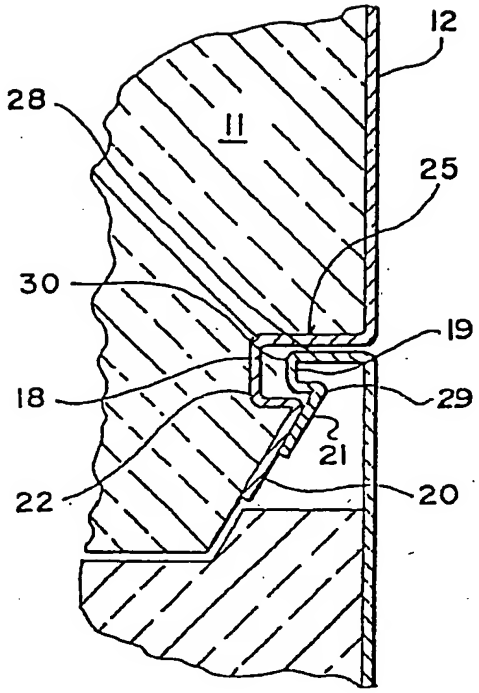

FIG. 8

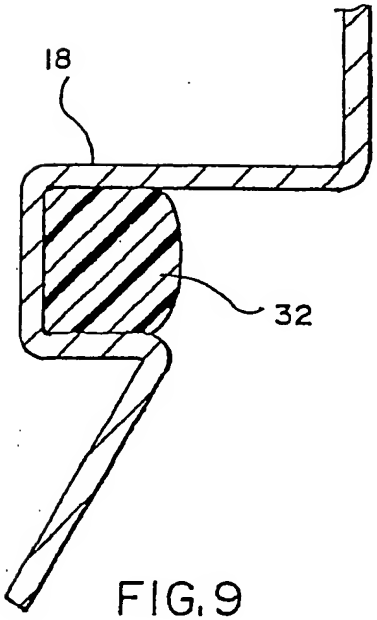

FIG. 9

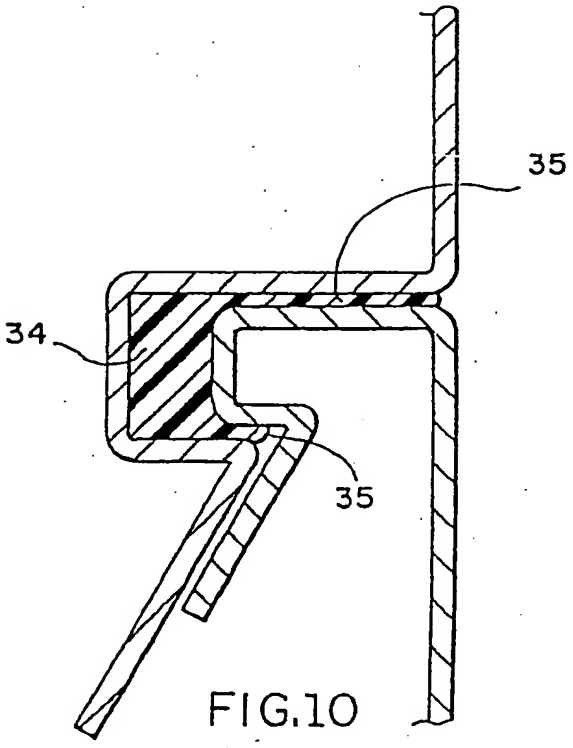

FIG. 10

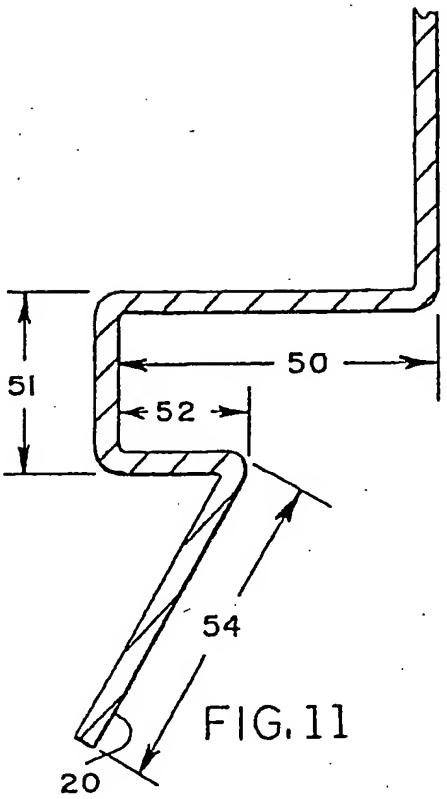

FIG. 11

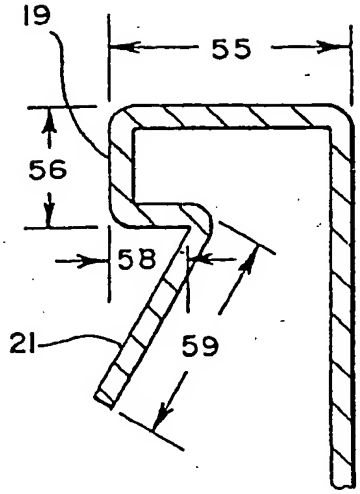

FIG. 12

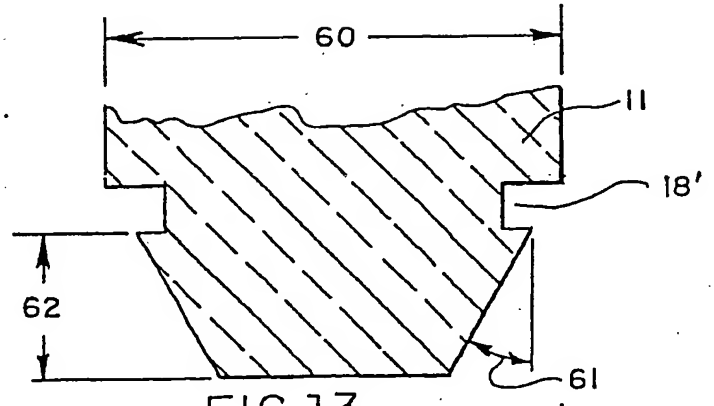

FIG. 13

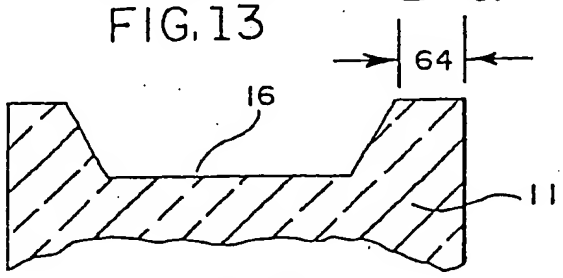

FIG. 14

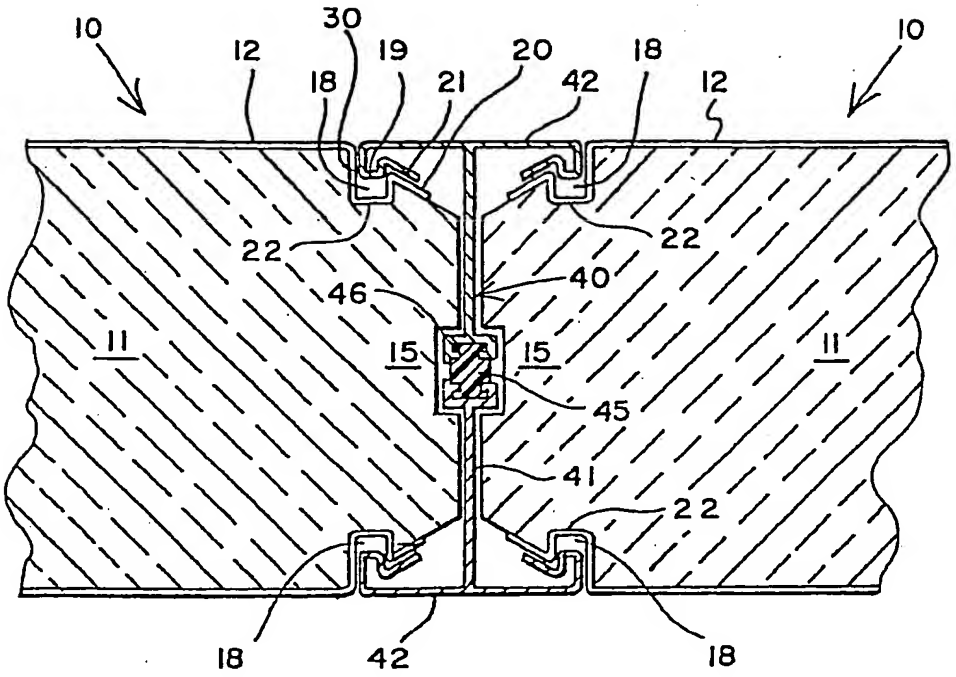
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FIG.15

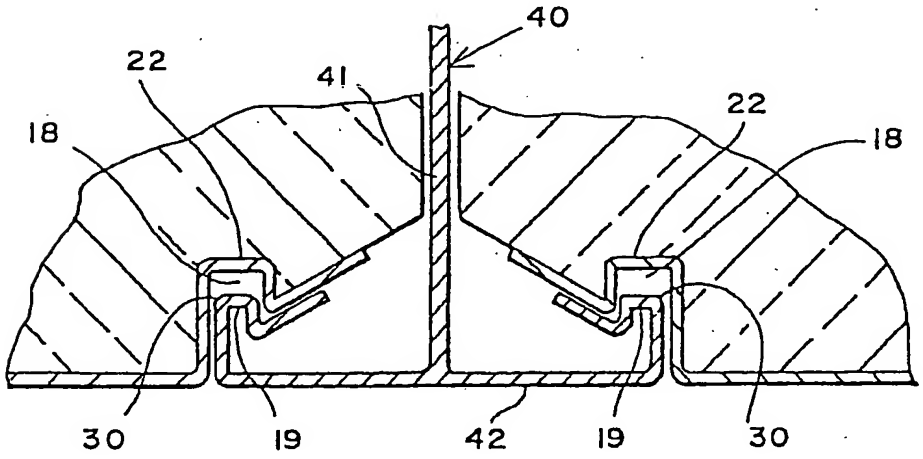
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FIG.16

BUILDING PANEL AND METHOD

The present invention relates to building panels which may be used for roofing, or sidewalls, interior or exterior. The invention addresses itself specifically to a joint for such panels which interlocks adjacent panels and in which provision is made for sealing and locking the panels together.

The prior art is represented by United States Patent No. 4,769,963 issued September 13, 1988, the patents cited therein such as U.S. Patent Nos. 3,367,076; 3,479,784; 3,742,672; 3,760,548 and 4,373,312 as well as 2,682,938 and U.S. Patent No. 4,769,963.

The structures of the prior art do permit interlocking adjacent panels. The structure of U.S. Patent No. 4,769,963 does an excellent job of interlocking but normally requires a direct press fit as distinguished from a rolling action which can be employed with a less precise joint. With all of the prior art patents, normally sealing is done after the panels are joined and at the seam. If the seam is tight, there is a problem in inserting the sealant at the seam where it can do its best job of bonding two adjacent edges together. Accordingly, the sealing often ends up as an exterior bead which, while acceptable for purposes of securing against leakage particularly where a joint is tight, it is less attractive than an unsealed closely abutting seam. Therefore, what

is needed is a joint between adjacent panels in which sealant can be the subject of provision internally of the joint, and yet the sealant is assured to give the joint water-tight integrity.

In order to preseal with the construction shown in U.S. Patent No. 4,769,963, there would have to be a shortening of the U-shaped structures 34 which would result in the end of the U-shaped structure not bottoming out in the channel 36 of edge 32. Therefore, from a standpoint of centering two adjacent panels, reliance must be had on the edge 24 of the core 16 projecting into the edge 22 of core 16 in an interlocking relationship between the foamed material in the dish-like geometry of end 24 and end 22. Thus the lateral stability as a function of the skin to provide for a centering relationship of the adjacent panels would be sacrificed if provision is made for a sealant pocket in the channel 36. This reinforces the desirability of providing for a sealant channel without sacrificing the centering ability of the roll-formed skin as distinguished from relying on the center foam portions to provide such centering.

The present invention derives from a joint, in one embodiment, between adjacent panels of sheet encased insulating material in which one lateral edge has an essentially frustoconical nose, and the other edge has a frustoconcial pocket. In another embodiment,

frustoconical noses are at both lateral edges and the two adjacent panels are joined by means of an I beam embodying an interlock according to the present invention. In both embodiments, the interlocking relationship is a function of the lateral edges of the cladding sheet, or the flange of an I beam, in which one edge has a sealant pocket, and the opposite edge has a locking sealant press which engages the sealant pocket and thereby interlocks the panels as well as presses the sealant in the sealant pocket to compress and secure the same and to form a sealant gasket between the lateral edges of the sealant pocket and the locking sealant press. A method according to another aspect of the invention contemplates the steps of providing adjacent building panels with sealant pockets in a seal press, and thereafter filling the sealant pocket with a predetermined amount of sealant to the end that when the joints are compressed together, there will be sufficient excess sealant material to be extruded by the sealant press lock to form gaskets or fins between the sidewalls of the sealant pocket and the sidewalls of the locking sealant press.

A stabilizer may be reversely folded on one edge of the sealant press to overly and snap-fittingly and centeringly engage the adjacent ramp. Two opposed stabilizers may serve as a vice to grip the two opposed ramps when the adjacent panels are assembled with the sealant in the sealant pocket.

In view of the foregoing one embodiment of the present invention can provide building panels of the type which are essentially a sheet encased insulating core with opposed lateral edges which permit the same to be readily secured to each other, and also to accommodate a sealant which is interior of the joint, not exposed at the exterior seam, and yet has the structural and sealant integrity to secure against moisture penetration, air leakage, and other flow through the joint.

Another embodiment of the present invention provides a joint between adjacent structural panels which does not require significantly increased amounts of insulating material or sheet cladding, and which can be formed with roll formed presses or extruders of the kind known in the art.

Yet another embodiment of the present invention is to provide such a joint which will lockingly receive an adjacent panel, lockingly secure sealant in place, and yet provide for dimensional stability of the completed joint and sections of adjacent panels which permits the structure to be erected with modular panels knowing that the modular dimensions of the roof or sidewalls will be predetermined with accuracy based upon the coaction between the adjacent building panels. As a corollary, another embodiment is arranged to utilize such a joint in which a vice-like relationship is achieved between the two opposing lateral edges at the joint and adjacent the sealant pocket.

By means of the present invention it is possible to provide a joint as described which can be enjoyed in the construction of a flush mounted I beam which join the opposed edges of adjacent panels and thereby impart a significantly improved span capability with an attractive flush joint, and four sealing pockets as distinguished from the two where no I beam is employed.

The present invention including the apparatus and method will be better understood as the following description proceeds taken in conjunction with the accompanying illustrative drawing, in which:

FIG. 1 is a perspective view of an illustrative house having an enclosed patio including doors and windows and which is constructed of panels illustrative of the present invention;

FIG. 2 is an enlarged view of the enclosed patio portion of FIG.1, and showing sequentially how the panels are placed into position;

FIG. 3 is an enlarged view of an interlocking edge and sealant pocket showing the interlocking vice-like relationship between the edge and pocket; A,B,C, and D show progressive interlocking steps, without use of sealant, from initial contact to sliding and expanding at edges to final nesting;

FIG. 4 is an illustrative partially broken view showing how the adjacent panels illustrative of the present invention can be assembled with a rocking motion;

FIG. 5 is a view in the same scale and perspective as FIG. 4 but illustrating how the illustrative panels can be assembled by thrusting one panel towards the other in the plane of the same;

FIG. 6 along with FIG. 5 illustrates how the two adjacent panels may be assembled;

FIG. 7 is a sectional view of assembled panels showing how the nose of one panel is received by the pocket of the adjacent panel and secured in place by means of the sealant pocket and locking sealant press;

FIG. 8 is an enlarged view of the joint in FIG. 7, and showing more specifically the details as well as the location of the sealant material;

FIG. 9 is a further enlarged view of a portion of FIG. 8 showing how the pre-seal bead is inserted into the sealant pocket prior to assembling the panels;

FIG. 10 is a view sequential to FIG. 9 and illustrating how the sealant is compressed in the sealant pocket and how sealant gaskets are extruded to be adjacent the lateral edges of the sealant pocket and the sealant press thereby defining a gasket.

FIG. 11 is an enlarged view of the sealant pocket and showing exemplary dimensions of the same;

FIG. 12 is an enlarged view of the sealant press and showing exemplary dimensions of the same;

FIG. 13 is an enlarged view of the lateral edge nose of one panel showing illustrative dimensions;

FIG. 14 is an enlarged view of a lateral edge of the panel showing the nose pocket and showing illustrative dimensions;

FIG. 15 is a transverse sectional view of two adjacent panels which are joined by an I beam employing the joint of the present invention; and

FIG. 16 is an enlarged view of the end of the I beam and the two adjacent joints in enlarged scale taken essentially where shown as circled in the lower portion of FIG. 15.

The subject invention of a structural panel and joint will be best understood in the environment of its usage. One embodiment to be described first is of two adjacent panels 10 having a single joint at their lateral edges. An alternative embodiment utilizes an I beam to join two adjacent panels and at the web end joints there are essentially four joints illustrative of the present invention. Turning now to FIG.1, it will be seen that a house A has been supplied with an enclosed patio B which includes doors C, windows D, and the structural panel 10 illustrative of the invention. Turning now to FIG. 2, it will be seen that the house A and the enclosed patio B are made up by sequentially positioning the panels 10 adjacent each other and lockingly securing the same by press-fittingly engaging their opposed lateral edges. A version of the prior art is shown U.S. Patent No. 4,769,963 of September 13, 1988 in which the adjacent panels do have an opposed tongue-and-groove type construction. On the other

hand, means are not provided at the lateral edges for pre-assembly sealing and lockingly and dimensionally accurately securing and centering the adjacent panels.

The panels illustrative of the first embodiment of the invention can be secured by sliding directly in opposed relationship, or rockingly engaging the one to the other. Such locking engagement sequence is illustrated in FIG. 3. FIG. 3A shows the locking sealant press 19 of one panel making initial contact with ramp 20 of an adjacent panel. FIG. 3B shows the locking sealant press 19 sliding up the ramp 20 21 and simultaneously flexing outward from the nose 15. FIG. 3C shows further sliding progression up the ramp 20 by the sealant press 19 and further outward expansion of the sealant press 19, reaching the final prelocking sliding position. FIG. 3D shows sealant press 19 snapped into sealant pocket 18 in vice-like locking relationship with sealant pocket 18. Such locking engagement is further illustrated in FIG. 4, where it will be seen that the panel 10 with its interior core 11 has the pocket 16 positioned opposite the nose 15 of the adjacent panel 10. The one panel is rocked with regard to the other until the locking pocket 18 is engaged by the locking sealant press 19 of the opposed panel as shown in the left-hand portion of FIG. 4. Thereafter, the panel is rotated essentially in the direction of the arrow as shown, until the opposite locking press 19 engages the opposed sealant pocket 18. In FIG. 5, the relationship of opposed panels is shown, and the

arrow illustrates that the one panel 10 having a pocket 16 is moved in direct opposed parallel relationship to the opposite panel 10 toward the nose 15 and then the locking sealant presses 19, 19 substantially simultaneously fit into the sealant pockets 18.

More specific details will be seen as the description of FIGS. 7 and 8 takes place. As will be seen in FIG. 7, the panel 10 is made up of a core material 11. This core material can be in a block of many thicknesses between one inch to eight inches in thickness. Commercial insulating grade of polystyrene is a desired material, but any material having comparable strength and insulating characteristics can be employed in a panel contemplated by the present invention. Such materials may include urethane, isocyranates, foamed or composite slabs, and honeycomb cores. The core 11 is covered by a skin 12 which is desirably laminated to the core 11. The skin 12 oftentimes is made up of aluminium having a thickness of 0.015 inches to 0.040 inches. While aluminium is a preferred material, other claddings including certain forms of plastics and steel are acceptable if they have the yieldable and formable characteristics at the joint portion. In addition, an aluminium encased steel sold under the trademark Galvalume is also an acceptable skin. In addition, the cladding or skin may be a composite. For example, an interior wall may have a formed metal joint at the lateral edge with a laminated interior finished wall

portion such as wood panel, dry wall, chip board, or even wall paper. Finally, it will be noted that the nose 15 is provided in one of the panels 10 and is essentially frustopyramedal in its cross-section. The opposite mating foam nose pocket 16 is similarly configured. While the two opposed members, namely nose 15 and pocket 16, have been shown in contact with each other, it is anticipated that a gap may be positioned between the nose 15 and the pocket 16, particularly because of the joint of the invention.

Turning now to FIG. 8, there it will be seen that the panel 10 with its core 11 and skin 12 is recessed in order to provide for a reversely formed portion of the skin 12 to define the sealant pocket 18. The sealant pocket 18 has a nose side 24, a panel side 25, and a bottom 22 which joins the two sides and is in substantially perpendicular relationship to both of the sides. The sealant pocket 18 terminates with a ramp 20 which parallels one of the sidewalls of the nose 15.

Opposite the sealant pocket is a locking sealant press 19 which press has a centering stabilizer 21 extending from the press portion and in substantially parallel relationship to the ramp 90. The sealant press 19 has a sealant press leading edge 28, and a sealant press trailing edge 29. The centering stabilizer 21 extends from the trailing edge 29. The centering stabilizer 21 is dimensioned so that, with its opposed centering stabilizer

21, it has a vice-like grip on the two adjacent ramps 20 to the end that centering of the two adjacent panels is assured, even though the locking sealant press bottom portion is spaced apart from the bottom 22 of the sealant pocket 18.

Quite important to this construction is the slide corner 30 of the sealant press 19 which slidingly engages the adjacent ramp 20 as was described previously in connection with FIGS. 3, 4 and 5. When the joint is concluded, a flex pocket 31 remains interiorly of the lateral extending edges of the skin 12 which has been formed to define the locking sealant press 19.

In accordance with the use of the present embodiment, a preseal material 32 is positioned in the sealant pocket 18 as shown in FIG. 9. This preseal 32 is proportioned to essentially fill the sealant pocket 18 to an amount somewhat in excess of the space which will be provided after the locking sealant press 19 has been inserted. Turning now to FIG. 10, it will be seen that after the locking sealant press 19 has been inserted, the residual is a compressed sealant 34 in the base of the sealant pocket 18, and sealant gaskets 35 which are extruded as the sealant press 19 enters the sealant pocket 18. The result is not only the sealant at the base of the sealant pocket which under some circumstances is more than adequate to insure against leakage, but in addition the sealant gaskets 35 are defined which further reduce the likelihood of

moisture penetration even into the joint. Conversely, the sealant gasket does not extend beyond the opposed edges of the skin 12 of the adjacent panels, and therefore is hidden from view and the panel joint appears to be one of closely abutting skin end portions which are neatly positioned adjacent each other. Finally, a centering relationship between the two adjacent panels 10 is assured by the vice-like grip the opposed centering stabilizers 21 have with the adjacent ramps 20.

The method presupposes the forming of structural panels in which opposed lateral edges have respectively a nose and a pocket 15, 16. The skin 12 portions of the opposed panels 10 are provided at their lateral edges with a sealant press extending from the nose pocket portion 16, and a sealant pocket 18 extending from the nose portion 15. The sealant pocket is filled with a bead of preseal 32 in an amount proportioned to exceed the ultimate available space between the bottom 22 of the sealant pocket, and the bottom of the locking sealant press 19. As the units are put together in accordance with the method, the compressed sealant 34 is defined in the sealant pocket 18, and portions of the sealing material are extruded to form sealant gaskets 35, between the opposed sidewalls of the locking sealant press 19 and the sealant pocket 18.

While the precise dimensions of the subject panels are not considered a detailed part of the invention, for

illustrative purposes they do exemplify the proportions of the opposed members. Normal commercial practice utilizes a panel having a center core portion of approximately three inches in thickness. Therefore, the following dimensions which are set forth relate to utilization with a three inch thick panel. The lateral edges do not vary, however, between thicknesses of one inch and eight inches inasmuch as the structural integrity of the lateral edges is substantially independent of the thickness of the foam 11. The dimensions which are set forth as follows are based upon the tolerances and the dimensions used for utility with a wide variety of thicknesses of core material 11. The dimensions are set forth to particularly show the ratios of the lengths, widths, and depths of the various elements of the joint.

Thus, in FIG. 11, it will be seen that the depth of the pocket 18 is approximately 0.432 inches. The distance across the bottom 22 shown as reference numeral 51 is 0.25 to 0.50 inches. The depth of the nose wall of the pocket 18 identified as reference numeral 52 is between 0.187 and 0.25 inches. Finally, the ramp 20 shown as dimension 54 is between 0.25 and 0.50 inches.

Turning now to FIG. 12, it will be seen that the locking press leading edge identified by reference numeral 55 is approximately 0.30 to 0.25 inches. The head portion 56 of the locking press 19 shown as reference numeral 56 is between 0.15 and 0.40 inches. The return portion 58 which

terminates in the centering stabilizer 21 is approximately 0.125 inches. The length of the centering stabilizer 21 shown by reference numeral 59 is between 0.25 and 0.375 inches.

For purposes of reference, the above dimensions shown in FIGS. 11 and 12 reference numerals 50-59 contemplate a insulating core material 11 which is approximately three inches thick. Thus turning to FIG. 13, the width of the core 11 is identified by reference numeral 60 and it is nominally to 8 inches. The pockets which are formed to receive the sealant pocket 18, 18' are approximately 0.475 inches deep, and between 0.25 and 0.50 inches wide. The angle of the frustoconical portion with the parallel skin 12 identified by reference numeral 61 is between 45^{o} and 60^{o}. The distance between the leading edge of the pocket 18' and that portion which abuts the adjacent panel shown by reference numeral 62 is approximately 0.50 to 1.0 inches.

The pocket 16 as shown in FIG. 14 is between 0.25 and 0.50 inches deep, and between 1.0 and 8.0 inches wide, with the two flat portions identified by reference numeral 64 being approximately 0.375 and 0.50 inches, and the angle of taper being the same as the angle of the nose identified by reference numeral 61 in the range of 45^{o} to 60^{o}.

The alternative embodiment panel shown in FIG. 15 will be described using identical reference numerals to the first embodiment just described, where applicable to show the commonality of invention and joint usage. It will be seen in FIG.15 that the two adjacent panels 10 have a pair of noses 15 which oppose each other. An I beam 40 is provided with a central web 41, and a pair of flanges 42 at either end of the web 41. An optional elastomeric spanner 45 is provided at the central portion 46 of the I beam web 41. At the opposite ends of each of the spanners 42 provision is made for a sealant pocket 18, a locking sealant press 19, a ramp 20, a centering stabilizer 21, and a bottom 22. The leading edge 28, trailing edge 29, slide corner 30, flex pocket 31 are the same as described in the first embodiment. The adjacent panels 10 are joined in essentially the same fashion as illustrated in FIGS. 4, 5, and 6. The sealant is applied in essentially the same fashion as illustrated in FIGS. 9 and 10. The I beam 40 is constructed with the flanges 42 so that the ends of the flanges 42 are flush with the skin 12 of the panel 10. The optional elastomeric member 45 is secured in the central area 46 of the web 41, and accommodates expansion and contraction where temperature differentials exist and thereby insures a flush fit. By utilizing the beam 40 significantly longer unsupported spans can be made, and the skin 12 can be reduced. The joint between the adjacent panels 10, however, is equally as well sealed as with the

first embodiment and provision is made for four seals along with the flush mounted beam. The flush mounted beam 40 is made of varying thicknesses and the web 41 and flanges 42 can be of thicker material than those elements comprising the sealant press 19 and centering stabilizer 21.

Although particular embodiments of the invention have been shown and described in full here, there is no intention to thereby limit the invention to the details of such embodiments. On the contrary, the intention is to cover all modifications, alternatives, embodiments, usages and equivalents as fall within the spirit and scope of the present invention, specification and appended claims.

CLAIMS.

1. A building panel comprising, in combination,

a core portion having insulating and structural properties,

a skin secured to the core portion having formed lateral edges,

a nose formed in the core material portion of one lateral edge of the panel,

and a mating member formed on the opposite lateral edges of said panel,

sealant pockets provided on the lateral portions of the nose edge and mating member terminating in a ramp for receiving an opposed yieldable member,

and opposed means defining a sealant locking press provided adjacent the pockets which is formed to define a press for entering into the opposed pocket and terminating with a further folded centering stabilizer portion which is proportioned to ride on the opposed ramp,

said locking press being proportioned for a nesting fit within the sealant pocket but providing sufficient clearance to permit sealant material to extrude between the opposed faces of the sealant press and the sealant pocket as the sealant press yieldably moves into the sealant pocket to lockingly engage the two opposed members and their respective adjacent panels.

2. A panel according to claim 1, wherein

said sealant pocket has a bottom and two opposed essentially parallel sides, and

said sealant pocket terminates in a ramp which is reversely folded a distance less than the length of a sealant press leading edge and extending from the sealant press trailing edge.

3. A panel according to claim 1 or 2, wherein

said sealant press has a leading edge and a trailing edge,

said trailing edge being shorter than the leading edge, and

said trailing edge terminates in a centering stabilizer which is angled with respect to the press at approximately the same angle as the ramp is angled with the sealant pocket and its respective adjacent skin.

4. A panel according to claim 1, 2 or 3, comprising

a pocket on the lateral edge opposite the nose.

5. A panel according to claim 2, 3 or 4, comprising

an I beam having a web and opposed flanges at the end of the web,

said flanges having ends with a sealing press and flanges proportioned to engage the sealant pocket.

6. A method of securing two adjacent panels in which one edge of the panel is provided with a nose having a sealant

pocket at its base portion, and means defining a sealant press extend from an opposite panel, comprising the steps of:

inserting a predetermined amount of sealant in the sealant pocket which is calculated to exceed the amount of space when the adjacent panels are secured in locked relationship with the sealant press interiorly of the sealant pocket,

thereafter securing the two panels together.

7. A building panel and beam comprising, in combination,

a core portion having insulating and structural properties,

a skin secured to the core portion having formed lateral edges,

a nose formed in the core material portion of both lateral edges of the panel,

and a mating nose member formed on the opposite lateral edges of said panel,

sealant pockets provided on the lateral portions of the nose edge and mating member terminating in a ramp for receiving opposed yieldable member,

an I beam having a web and end flanges,

and opposed flange means at the ends of the flange defining a sealant locking press provided adjacent the pockets which is formed to define a press for entering into

the opposed pocket and terminating with a further folded centering stabilizer portion which is proportioned to rise on the opposed ramp,

said locking press being proportioned for a nesting fit within the sealant pocket but providing sufficient clearance to permit sealant material to extrude between the opposed faces of the sealant press and the sealant pocket as the sealant press yieldably moves into the sealant pocket to lockingly engage the two opposed members and their respective adjacent panels.

8. A panel according to claim 7, wherein

said sealant pocket has a bottom and two opposed essentially parallel sides, and

said sealant pocket terminates in a ramp which is reversely folded a distance less than the length of a sealant press leading edge and extending from the sealant press trailing edge.

9. A panel according to claim 7 or 8, wherein

said sealant press has a leading edge and a trailing edge,

said trailing edge being shorter than the leading edge, and

said trailing edge terminates in a centering stabilizer which is angled with respect to the press at approximately the same angle as the ramp is angled with the sealant pocket and its respective adjacent skin.

10. A building panel comprising, in combination,

a core portion having insulating and structural properties,

a skin secured to the core portion having formed lateral edges,

a nose formed in the core material portion of one lateral edge of the panel,

and a nose receiving recess formed on the opposite lateral edge of said panel,

sealant pockets provided on the lateral portions of the nose edge terminating in a ramp for receiving an opposed yieldable member,

and opposed means defining a sealant locking press provided adjacent the nose receiving recess which is formed on the edge of the skin to define a locking press for entering into the opposed sealant pockets and terminating with a further folded centering stabilizer portion which is proportioned to ride on the opposed ramp,

said locking press being proportioned for a nesting fit within the sealant pocket but providing sufficient clearance to permit sealant material to extrude between the opposed faces of the sealant press and the sealant pocket as the sealant press yieldably moves into the sealant pocket to lockingly engage the two opposed members and their respective adjacent panels.

11. A panel according to claim 10, wherein

said sealant pocket has a bottom and two opposed essentially parallel sides,

said sealant pocket terminates in a ramp which is reversely folded a distance less than the length of a sealant press leading edge and extending from the sealant press trailing edge.

12. A panel according to claim 10 or 11, wherein

said sealant press has a leading edge and a trailing edge,

said trailing edge being shorter than the leading edge, and

said trailing edge terminates in a centering stabilizer which is angled with respect to the press at approximately the same angle as the ramp is angled with the sealant pocket and its respective adjacent skin.

AMENDMENTS TO THE CLAIMS HAVE BEEN FILED AS FOLLOWS

1. A building panel comprising, in combination,

a core portion having insulating and structural properties,

a skin secured to the core portion having formed lateral edges which extend beyond the core on one lateral edge of the panel,

a nose formed in the core material portion of one lateral edge of the panel,

and a nose mating member formed on the opposite lateral edges of said panel,

sealant pockets formed on the skin edges provided on the lateral portions of the nose edge and mating member terminating in a nose core engaging ramp for receiving an opposed yieldable member,

and opposed means formed with skin which extends from the core and formed defining a sealant locking press provided adjacent the pockets which is formed to define a press for entering into the opposed pocket and terminating with a further folded centering stabilizer portion which is proportioned to ride on the opposed nose engaging ramp,

said locking press being proportioned for a nesting fit within the sealant pocket but providing sufficient clearance to permit sealant material to extrude between the opposed faces of the sealant press and the sealant pocket as the sealant press yieldably moves into the sealant pocket to lockingly engage the two opposed members and their respective adjacent panels.

pocket at its base portion, and means defining a sealant press extend from an opposite panel, comprising the steps of:

inserting a predetermined amount of sealant in the sealant pocket which is calculated to exceed the amount of space when the adjacent panels are secured in locked relationship with the sealant press interiorly of the sealant pocket,

thereafter securing the two panels together.

7. A building panel and beam comprising, in combination,

a core portion having insulating and structural properties,

a skin secured to the core portion having formed lateral edges extending from the core,

a nose member formed in the core material portion of both lateral edges of the panel,

and a mating nose member formed on the opposite lateral edges of said panel,

sealant pockets provided on the lateral portions of the nose edge and mating member terminating in a ramp for receiving opposed yieldable member,

an I beam having a web and end flanges,

and opposed flange means at the end of the flange defining a sealant locking press provided adjacent the pockets which is formed to define a press for entering into

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